Perception and Application of Professional Aviation Experts in Thailand on the ICAO Language Proficiency Requirement Rating Scale

Sonny Sunais Amonpa And Asst. Prof. Dr. Suthi Aksornkitti

บทคัดย่อ

การวิจัยนี้ มีวัตถุประสงค์เพื่อ วิเคราะห์ความคิดเห็น และการนำไปปฏิบัติใช้การใช้ภาษาตามแบบอย่างชี้วัดความชำนาญของภาษาตามแบบขององค์การบินพลเรือนระหว่างประเทศของผู้ชำนาญวิชาชีพด้านการบินในประเทศไทยซึ่งได้มีการรับรองในระดับ 4 ถึง 6 และเพื่อเปรียบเทียบความคิดเห็นระหว่างผู้ชำนาญวิชาชีพด้านการบินที่ได้รับการรับรองในระดับ 4 ถึงระดับ 6 ในเรื่องของการใช้ภาษาตามแบบขององค์การบินพลเรือนระหว่างประเทศ การวิเคราะห์ ประมวลผลข้อมูลใช้สถิติเชิงพรรณา ได้แก่ ค่าเฉลี่ย ค่าเบี่ยงเบนมาตรฐาน ค่าร้อยละ ได้แก่ F-test เพื่อทดสอบสมมติฐานที่กำหนดไว้เบื้องต้น การสำรวจเก็บรวบรวมข้อมูลที่ต้องการเก็บมาจากผู้ชำนาญวิชาชีพด้านการบิน จำนวน 152 คน ณ สนามบินสุวรรณภูมิ สมุทรปราการ จากผลการวิจัยพบว่า สมมติฐานการวิจัยทั้งหมดที่กำหนดไว้ในการวิจัยทุกด้านไม่แตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05

คำสำคัญ: ผู้ชำนาญวิชาชีพด้านการบิน, ความคิดเห็น, ความชำนาญ

Abstract

This paper aims to analyze the perception and the application of the P.A.E. in Thailand with the Endorsement on Level 4, Level 5 and Level 6 with reference to the ICAO Language Proficiency Rating Scale and to compare the perception of Level 4, Level 5 and Level 6 on the ICAO Language Proficiency Rating Scale. The descriptive statistical techniques which are $\bar{X}$, SD and the percentage are used to analyze the data and the Analysis of Variance between groups analysis of variance (Anova) is used to test the hypothesis. The survey was carried out by collecting the pertinent data and also using the survey format presented to 152 P.A.Es. stationed at Suvarnabhumi Airport, Samutprkarn. The research results discover that all the hypothesis of the research show no significance difference at 0.05 pertaining to the perception of the respondents on the ICAO Language Proficiency Requirement Rating Scale.

Keywords: Professional Aviation Experts (P.A.E.), perception, proficiency

Introduction

Operating safe flights relies on successful pilot and air traffic control personnel communications. Not too many years ago a few airplane accidents had claimed a few hundred of lives where one collision took place on the ground and the other accident involved fuel exhaustion and one more involved a controlled flight in to the terrain. Aircraft accident investigator found the common contributing element: inadequate language proficiency of part of flight crew or controller had contributed to the chain of events leading to the accident. (ICAO Doc 9835 AN/453 second edition 2010)

The pilot-controller communication practices what is called standard ICAO phraseology which are used routinely to address and unpredictable abnormal situations. But, in many non-routine, abnormal or emergency operational situations such as system failures, passengers illness, deviated flights, bad weather conditions, obstacles on the runway, threatening passenger behavior, running short of fuel, delay, bomb scares etc. standard phraseology. Pilots and the controllers must go back to what is called plain or common language to manage the situation.

Nevertheless numerous accidents and near misses are reported annually as a result of language deficiency causing a review of communication procedures and standards around the world. In 1996, a mid-air collision caused 349 deaths over the Indian airspace in which insufficient English proficiency was a contributing factor, three native languages involved. (Airplane crashes with ties to language, http://www.aero-lingo/does/ reason.html) prompted serious concerns by the ICAO.

By 1998, in response to such alarming circumstance, the ICAO's urgent priority was to strengthen the existing provisions pertaining to language requirements, incorporating with the consideration to have contracting States put emphasis to guarantee that the air traffic control personnel and pilots operate in international environment where English language is required are proficient to conduct and to comprehend radio-telephony communication in the English language.

Finally, the ICAO has designated English Proficiency requirements and instructed that these requirements shall be effective from 5 March 2008. There are six levels of proficiency in the requirements with reference to the requirements air traffic control personnel and pilots shall demonstrate a minimum proficiency of at least level 4 of both ICAO Standard Phraseology and plain English language, to be issued with or to maintain the respective licenses. Additionally, the requirements stipulated that both air traffic personnel and pilots who have not been rated at level 6 proficiency shall be tested for English language proficiency at regular intervals to ascertain that they continue to be proficient at prescribed level.

Air traffic control personnel and pilots who have been rated at level 6 proficiency shall not need to enter re-examination process. (refer to Appendix 1 of ICAO Annex 1 and the ICAO Language Proficiency Rating Scale attached to ICAO Annex 1) The ICAO has extended the deadline for proficiency assessment to 5 March 2011.

The language proficiency requirement emphasized on speaking and listening proficiency only. Writing and reading ability are not the main concern.

There are 6 vital skill dimensions as prescribed by ICAO to be assessed as shown in figure 1

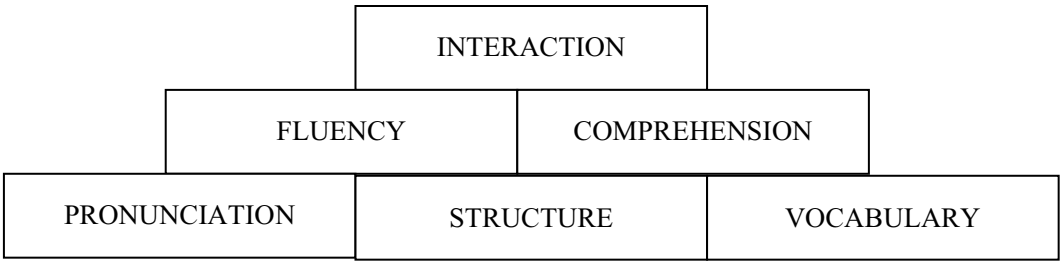

Figure 1 Six vital skill dimensions as perceived by the ICAO

Note. from Six vital skill dimensions as perceived, by ICAO, (2010), Retrieved from Doc 9835 AN/453 second edition

All air traffic control personnel and pilots involved in and make contact with international flight must be proficient in the English language as prescribed by ICAO Annex 1 and for those who are not in compliance with ICAO Annex 1, they have no alternative but obtain such proficiency or they may be removed from international operation. (ICAO Doc 9835 AN/453 second edition 2010)

Objectives

1. To analyze the perception and the application of the Professional Aviation Experts on the ICAO Language Proficiency Rating Scale.
2. To compare the perception of Level 4, Level 5 and Level 6 on the ICAO Language Proficiency Rating Scale of the Professional Aviation Experts.

Conceptual Framework

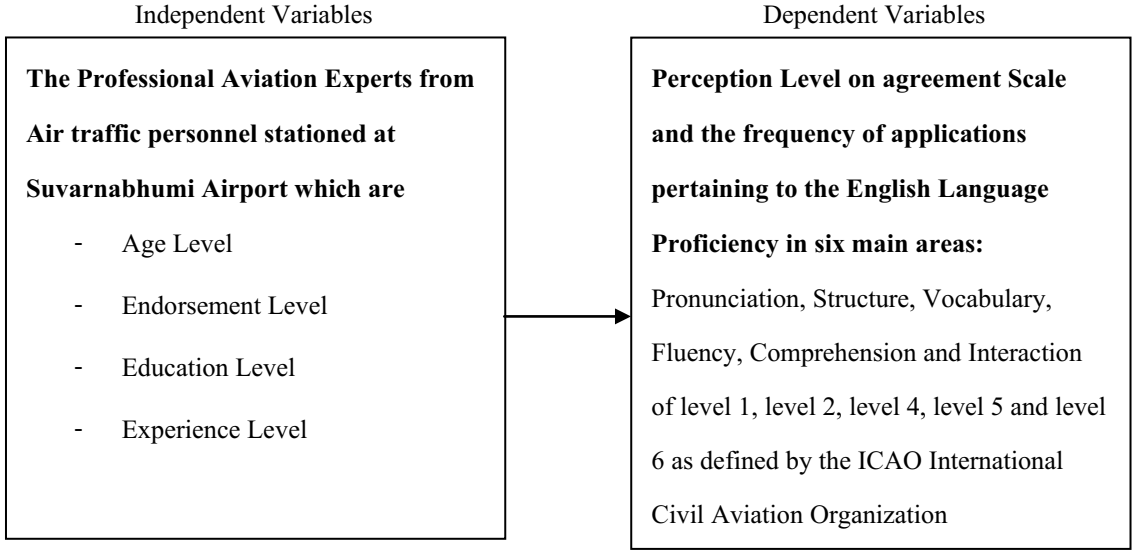

Figure 2 Research variable

Hypothesis

The aviation experts derived from the air traffic control personnel stationed at Suvarnabhumi Airport took part in this research.

1. There is existence of significant difference on perception among the professional aviation experts with endorsement Level 4-6 of the ICAO language proficiency requirement rating scale on level 4-6.

2. There is existence of significant different among different age level of the professional aviation experts with endorsement Level 4-6 of the ICAO language proficiency requirement rating scale on level 4-6.

3. There is existence of significant different on perception among the professional aviation export with different level of education with reference to the ICAO language proficiency requirement rating scale.

4. There is existence of significant different on perception of the professional aviation experts with different level of experience with reference to the ICAO language proficiency requirement rating scale.

Methodology

This research is signed as a cross section survey in which different groups of people are compared on a single occasion.

Population and Sample

Populations for this research include 152 Professional Aviation Experts stationed at Suvarnabhumi Airport, Samutprakarn.

Sampling size by using Yamane (1967) method. There are 250 aviation experts. Therefore, the sampling size is 152 persons. As for the language expert populations, there is very limited population available for this survey, thus, all raters are included in the sample size totaling number of five subjects. Sample random method is also used to draw the subjects in this survey.

Research Tool

The research uses the ICAO Language Proficiency Requirement guideline from the rating scale as a basic to create the questionnaire, encompassing pronunciation, structure, vocabulary, fluency, comprehension and interaction. The questionnaire is designed to discover and measure the perception and the agreement of the aviation professional expert by employing the Likert Scale (Likert, 1932) where the respondents indicate their respective answers as favorable statement using 5 categories such as strongly agree, agree, undecided, disagree and strongly disagree. The questionnaire seek to find out the answer regarding the applications of the aviation professional experts using the Likert Scale to seek their response in 5 categories which are very frequent, frequent, moderate, infrequent and very frequent.

Data Collection

This research presents the respective questionnaires to the professional aviation experts in order to accumulate the pertinent data so that the corresponding data will be statistically applied to the research findings.

Statistical Analysis

The descriptive statistical techniques which are $\bar{X}$, S.D. and percentage are used to analyze the data and ANOVAs for hypothesis test.

Results

The results of the research are as follow:

1. As for personal factor, the majority of the population age of the P.A.E. stationed at Suvarnabhumi Airport is from 35-45 years of age group comes in second at 70 (46.1%). Those older than 45 year of age group comes in last at 11 (7.2%)

2. As for personal factor, the majority of language proficiency endorsement is level 4 for the P.A.E. stationed at Surarnabhumi Airport which consistings of 134 subjects (88.2%). The level 5 comes in second at 15 subjects (9.9%) and the level 6 comes in last at 3 subjects (2%).

3. As for personal factors, the majority of educational accomplishment of the P.A.E. stationed at Suvarnabhumi Airport consists of 101 subjects (66.4%) with Bachelor's degree. There are 50 P.A.E. with Master's degree or 32.9%. There is only one P.A.E. with higher than Master's degree or 7% which is minority

4. As for personal factor, there are 144 P.A.E. (94.7%) with 20 years of experience in air traffic control. The are 7 P.A.E. (4.6%) with experience of 20 to 30 years. Lastly, there is one P.A.E (7%) with more than 30 year of experience.

5. According to descriptive statistical analysis of the independent variables, ranking in order of scores achievement, the comprehension average mean ($\bar{X}$) is at high level where ($\bar{X}$) = 3.53, SD = .755 (low distribution), the interaction's average mean ($\bar{X}$) is at high level where ($\bar{X}$) = 3.50, SD = .824 (low distribution), the pronunciation's average mean ($\bar{X}$) is at high level where ($\bar{X}$) = 3.50 , SD = .759 (low distribution), the vocabulary's average mean ($\bar{X}$) is at moderate level where ($\bar{X}$) = 3.48 , SD = .762 (low distribution), the fluency's average mean ($\bar{X}$) is at moderate level where ($\bar{X}$) = 3.47 , SD = .774 (low distribution), the structure's average mean ($\bar{X}$) is at moderate level where ($\bar{X}$) = 3.36, SD = .830 (low distribution).

6. The research hypothesis 1-4 tests with reference to age, endorsement level, education and experience reveals that there is no significant difference at 0.05 pertaining to the perception of the ICAO language proficiency requirement, therefore, it is concluded that all research hypothesis is denied and will accept the research result instead.

Discussion

The research found that different personal factors which are age, endorsement level, education and experience of the P.A.E. at Suvarnabhumi Airport shows no significant different. Haven, this research believes that there are explanation readers the research findings : Regarding the P.A.E. / air traffic controller, the profession as an air traffic controller require tremendous training in all facets including the aviation phraseology and most recent is the language proficiency requirement of the ICAO where all P.A.E. must be endorsed at least the level 4 to be operational qualified. The air traffic controllers certainly must be able to interact well with other individuals e.g. pilots, air traffic control associates and other airmen besides they have to be current on their license. The P.A.E. who passed the ICAO language proficiency test must have had adequate preparation in 6 dimensions which are pronunciation, structure, vocabulary, fluency, comprehension, and interaction. Moreover, air traffic control is universally and highly, regulated so, rules and responsibilities are to be adhere at all time. However, there are some relationships between Mead's, (1934) and the ICAO's prescription regarding the language proficiency requirement. (ICAO DOC 9835 AN/453 2010). The ICAO stipulates that the proficiency is not only knowledge of a set of grammar rules, vocabulary and kinds of sound being said but also a complicated interaction of the knowledge with a number of skills and abilities while mead's theory explains that the symbolic interaction perspective theory features three activities in which the self is developed: language, play and game. Language lets individuals take responsibilities on the role of others and permit people to respond accordingly to his or her gesture. During play, individuals pretend to take role of others and try to show the likelihood of others. As for the game, the individual is expected to understand the role of everyone else involved with his or her in the gram and must group the rules of the game. So when the P.A.E. have passed as qualified training as air traffic controllers and the ICAO language proficiency requirement and engaged in their routine work in the capacity of the air traffic controller where language lets individual take responsibilities on the role of others and permit people (pilots) respond according to his or her gesture (vocal communication) through complicated interaction and the self is developed and understand the role of curry one else, therefore the experience, knowledge and the language proficiency are also being developed as well. Ultimately those personal factors have produced the facts that there is no significant difference of perception of the P.A.E. regarding the ICAO language proficiency requirement as shown in the research findings.

Suggestion

Concerning the Pronunciation, the analysis discovers that the frequency of the application of the respondents is at moderate level, therefore this research believes that there is room for improvement in this particular area. Each respondent should receive ongoing support such as continuing education catered to one's need relevant to the goal set forth by the ICAO Language Proficiency Requirement Guidelines such as rhythm and intonation where can be taught by linguistic experts preferably the native ones or near native caliber throughout their career.

Concerning the Comprehension, the analysis reveals that the frequency of the application of the respondents is at high level, however, the skill level can be elevated to the next level. The respondents should receive ongoing support such as continuing education designed to their needs but relevant to the ICAO Language Proficiency Requirement Guideline i.e. clear and accurate information transfer skill that will eventually result in improvement of the communication during their operational environment.

Concerning the Vocabulary: the analysis shows that the frequency of the application of the respondents is at moderate level, nevertheless, improvement can be achieved. The respondents should receive ongoing support in the form of continuing education, specifically providing them with their needs relevant to the ICAO Language Proficiency Requirement Guideline. The training should include important aspects such as choice of word, idiomatic expressions and style and by all means, the training should be done by the linguistic experts possibly the native or the near native caliber of the English language.

Concerning the Structure; the analysis shows that the frequency of the application of the respondents is at moderate level, nonetheless, steps can be taken to further their skills. The respondents should receive the ongoing support in the form of continuing education that can enhance their needs but relevant to the ICAO Language Proficiency Requirement Guideline and the training should include grammar, sentence pattern, global meaning and local meaning necessary to reach their maximum potentials.

Concerning the Fluency, the analysis shows that the frequency of the application of the respondents is at moderate level. At any rate, their skills can be improved in the form of continuing education purposely which, will increase their linguistic skills relevant to the ICAO Language Proficiency Requirement Guidelines. Such education training program include how to reach the naturalness of speech production, how to get rid of the inappropriate hesitation and pause that interfere with communication.

Concerning Interaction, the analysis reveals that the frequency of the application of the respondents is at high level. In order to extend their skills, it is imperative that some form of continuing education program be implemented so as to adhere to the ICAO Language Proficiency Requirement Guidances. Such program should, for example, include how to respond appropriately to verbal and non verbal cues and so on.

Recommendation

Prior to this research, the researcher had considered incorporation of the P.A.E. (air transport pilot) from Thai Airways with the P.A.E. (air traffic controller) at Sumarnabhumi Airport on the perception and Application of the ICAO Language Proficiency Requirement in the thesis proposal. Notwithstanding the consideration to include the air transport pilot in the research design, the time constraint allows insufficient preparation. Therefore, future research may include the aforementioned topic for the benefit of the aviation community.

Reference

Aero-lingo. (2010). *Airplane crashes with ties to language.* Retrieved from www.aero-lingo/does/reason.html

ICAO. (2010). *Six vital skill dimensions as perceived*. Retrieved from Doc 9835 AN/453 second edition

Likert, R. A. (1932). Technique for measurement of attitudes. *Archives of Psychology, 22*(140), 1-55.